

What is claimed is:

- 1 1. An apparatus for concurrently applying to a substrate a plurality of
2 substantially parallel strips of an adhesive, the apparatus comprising:
3 a carrier having motive supports for transporting the carrier along a path of
4 travel over the substrate;
5 a plurality of cradles mounted to the carrier and arranged in a line transversely
6 of the path of travel of the carrier over the substrate, each cradle being adapted to hold
7 a canister from which adhesive is discharged;
8 a discharging mechanism mounted on the carrier and adapted, when a driving
9 force is applied, to concurrently discharge the adhesive from the plurality of canisters
10 in the cradles; and
11 an actuating mechanism mounted on the carrier for selectively providing a
12 driving force to the discharging mechanism.

- 1 2. The apparatus of claim 1 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

- 1 3. The apparatus of claim 2 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 4. The apparatus of claim 1 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants
8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the
11 discharge of the adhesive from the other canisters.

1 5. The apparatus of claim 4 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

1 6. The apparatus of claim 1 wherein the actuating mechanism includes a
2 telescoping member having opposed ends and a driving device for developing a
3 driving force, one of the opposed ends of the telescoping member being attached to
4 the driving device, whereby the driving force acts to extend the telescoping member,
5 and the other of the opposed ends of the telescoping member being attached to the
6 discharging mechanism for transmitting to the discharging mechanism the driving
7 force developed by the driving device.

1 7. The apparatus of claim 6 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

1 8. The apparatus of claim 6 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants
8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the
11 discharge of the adhesive from the other canisters.

1 9. The apparatus of claim 7 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 10. The apparatus of claim 8 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

1 11. The apparatus of claim 1 including a force-resisting device connected to
2 the discharging mechanism for providing a resisting force to the driving force
3 selectively provided by the actuating mechanism to the discharging mechanism, the
4 magnitude of the resisting force being less than the magnitude of the driving force.

1 12. The apparatus of claim 11 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

1 13. The apparatus of claim 11 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants
8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the

11 discharge of the adhesive from the other canisters.

1 14. The apparatus of claim 12 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 15. The apparatus of claim 13 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

1 16. The apparatus of claim 11 wherein the actuating mechanism includes a
2 telescoping member having opposed ends and a driving device for developing a
3 driving force, one of the opposed ends of the telescoping member being attached to
4 the driving device, whereby the driving force acts to extend the telescoping member,
5 and the other of the opposed ends of the telescoping member being attached to the
6 discharging mechanism for transmitting to the discharging mechanism the driving
7 force developed by the driving device.

1 17. The apparatus of claim 16 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

1 18. The apparatus of claim 16 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants
8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the
11 discharge of the adhesive from the other canisters.

1 19. The apparatus of claim 17 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 20. The apparatus of claim 18 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

1 21. The apparatus of claim 11 including a release mechanism for releasing the
2 driving force provided by the actuating mechanism to the discharging mechanism so
3 as to allow the resisting force provided by the force-resisting device to disengage the
4 discharging mechanism from the canisters.

1 22. The apparatus of claim 21 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

1 23. The apparatus of claim 21 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants
8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the
11 discharge of the adhesive from the other canisters.

1 24. The apparatus of claim 22 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 25. The apparatus of claim 23 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

1 26. The apparatus of claim 21 wherein the actuating mechanism includes a
2 telescoping member having opposed ends and a driving device for developing a
3 driving force, one of the opposed ends of the telescoping member being attached to
4 the driving device, whereby the driving force acts to extend the telescoping member,
5 and the other of the opposed ends of the telescoping member being attached to the
6 discharging mechanism for transmitting to the discharging mechanism the driving
7 force developed by the driving device.

1 27. The apparatus of claim 26 wherein the discharging mechanism includes at
2 least one plunger located at each cradle that is adapted to fit within the canister of
3 adhesive held in the cradle, each plunger being connected to the actuating mechanism
4 for displacement within a respective canister so as to discharge the adhesive
5 concurrently with the discharge of the adhesive from the other canisters upon the
6 actuating mechanism selectively providing a driving force to the discharging
7 mechanism.

1 28. The apparatus of claim 26 wherein the discharging mechanism includes a
2 pair of plungers located at each cradle, the pairs of plungers at each cradle being
3 adapted to fit within a complementary pair of segregated compartments that contain
4 adhesive reactants within the canister held in the cradle and being connected to the
5 actuating mechanism for displacement within the pair of segregated compartments in
6 the canister upon the actuating mechanism selectively providing a driving force to
7 the discharging mechanism, including the plungers, whereby the adhesive reactants

8 from the pair of segregated compartments are displaced into a mixing nozzle
9 associated with the canister from which an adhesive produced by the mixing of the
10 two adhesive reactants in the mixing nozzle is discharged concurrently with the
11 discharge of the adhesive from the other canisters.

1 29. The apparatus of claim 27 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each plunger and to the actuating
3 mechanism for concurrently displacing the plungers within respective canisters upon
4 the actuating mechanism selectively providing a driving force to the discharging
5 mechanism, including the pressure bar.

1 30. The apparatus of claim 28 wherein the discharging mechanism further
2 includes a single pressure bar that is connected to each pair of plungers and to the
3 actuating mechanism for concurrently displacing the pairs of plungers within pairs of
4 segregated compartments of respective canisters upon the actuating mechanism
5 selectively providing a driving force to the discharging mechanism, including the
6 pressure bar.

31. The apparatus of claim 30 including a gauge for indicating the location of
the plungers in the canisters.

32. The apparatus of claim 30 wherein the plurality of cradles, the discharging
mechanism and the actuating mechanism are mounted on the carrier essentially in a
common plane at an angle of about 30 degrees between that common plane and the
substrate to which the adhesive is applied.

1 33. The apparatus of claim 1 wherein the motive supports include a pair of
2 wheels located coaxially at the rearward end of the carrier, the wheels being of a width
3 and spaced apart a distance such that, when the apparatus is used to apply adhesive to
4 a substrate comprising a corrugated roof decking having alternating ribs and flutes, the

5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels
6 located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of a
8 width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the two
10 forwardly and outwardly located wheels rest on the ribs of the decking.

1 34. The apparatus of claim 33 wherein:

2 the discharging mechanism includes a pair of plungers located at each
3 cradle, the pairs of plungers at each cradle being adapted to fit within a
4 complementary pair of segregated compartments that contain adhesive reactants
5 within the canister held in the cradle and a single pressure bar connected to each pair
6 of plungers; and

7 the actuating mechanism includes a telescoping member having
8 opposed ends and a driving device for developing a driving force, one of the opposed
9 ends of the telescoping member being attached to the driving device, whereby the
10 driving force extends the telescoping member, and the other of the opposed ends of
11 the telescoping member being attached to the pressure bar for transmitting to the
12 pressure bar the driving force developed by the driving device, thereby discharging the
13 adhesive from the plurality of canisters in the cradle.

35. The apparatus of claim 34 including a force-resisting device connected to the discharging mechanism for providing a resisting force to the driving force selectively provided by the actuating mechanism to the discharging mechanism, the magnitude of the resisting force being less than the magnitude of the driving force.

36. The apparatus of claim 35 including a release mechanism for releasing the driving force provided by the actuating mechanism to the discharging mechanism so as to allow the resisting force provided by the force-resisting device to disengage the discharging mechanism from the canisters.

1 37. The apparatus of claim 1 including a gauge for indicating the location of
2 the plungers in the canisters.

1 38. The apparatus of claim 37 wherein:

2 the discharging mechanism includes a pair of plungers located at each
3 cradle, the pairs of plungers at each cradle being adapted to fit within a
4 complementary pair of segregated compartments that contain adhesive reactants
5 within the canister held in the cradle and a single pressure bar connected to each pair
6 of plungers; and

7 the actuating mechanism includes a telescoping member having
8 opposed ends and a driving device for developing a driving force, one of the opposed
9 ends of the telescoping member being attached to the driving device, whereby the
10 driving force extends the telescoping member, and the other of the opposed ends of
11 the telescoping member being attached to the pressure bar for transmitting to the
12 pressure bar the driving force developed by the driving device, thereby discharging the
13 adhesive from the plurality of canisters in the cradle.

1 39. The apparatus of claim 37 wherein the motive supports include a pair of
2 wheels located coaxially at the rearward end of the carrier, the wheels being of a width
3 and spaced apart a distance such that, when the apparatus is used to apply adhesive to
4 a substrate comprising a corrugated roof decking having alternating ribs and flutes, the
5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels
6 located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of a
8 width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the two
10 forwardly and outwardly located wheels rest on the ribs of the decking.

40. The apparatus of claim 36 including a gauge for indicating the location of
the plungers in the canisters.

41. The apparatus of claim 1 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

42. The apparatus of claim 41 including a gauge for indicating the location of the plungers in the canisters.

43. The apparatus of claim 10 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

44. The apparatus of claim 43 including a gauge for indicating the location of the plungers in the canisters.

1 45. The apparatus of claim 44 wherein the motive supports include a pair of
2 wheels located coaxially at the rearward end of the carrier, the wheels being of a width
3 and spaced apart a distance such that, when the apparatus is used to apply adhesive to
4 a substrate comprising a corrugated roof decking having alternating ribs and flutes, the
5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels
6 located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of
8 a width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the two
10 forwardly and outwardly located wheels rest on the ribs of the decking.

46. The apparatus of claim 31 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

47. The apparatus of claim 36 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

48. The apparatus of claim 40 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

1 49. The apparatus of claim 1 wherein:

2 the discharging mechanism includes a pair of plungers located at each
3 cradle, the pairs of plungers at each cradle being adapted to fit within a
4 complementary pair of segregated compartments that contain adhesive reactants
5 within the canister held in the cradle and a single pressure bar connected to each pair
6 of plungers; and

7 the actuating mechanism includes a telescoping member having
8 opposed ends and a driving device for developing a driving force, one of the opposed
9 ends of the telescoping member being attached to the driving device, whereby the
10 driving force extends the telescoping member, and the other of the opposed ends of
11 the telescoping member being attached to the pressure bar for transmitting to the
12 pressure bar the driving force developed by the driving device, thereby discharging the
13 adhesive from the plurality of canisters in the cradle.

50. The apparatus of claim 49 including a force-resisting device connected to the discharging mechanism for providing a resisting force to the driving force selectively provided by the actuating mechanism to the discharging mechanism, the magnitude of the resisting force being less than the magnitude of the driving force.

51. The apparatus of claim 50 including a release mechanism for releasing the driving force provided by the actuating mechanism to the discharging mechanism so as to allow the resisting force provided by the force-resisting device to disengage the discharging mechanism from the canisters.

1 52. The apparatus of claim 51 wherein the motive supports include a pair of
2 wheels located coaxially at the rearward end of the carrier, the wheels being of a width
3 and spaced apart a distance such that, when the apparatus is used to apply adhesive to a
4 substrate comprising a corrugated roof decking having alternating ribs and flutes, the
5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels
6 located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of a
8 width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the two
10 forwardly and outwardly located wheels rest on the ribs of the decking.

53. The apparatus of claim 52 wherein the plurality of cradles, the discharging mechanism and the actuating mechanism are mounted on the carrier essentially in a common plane at an angle of about 30 degrees between that common plane and the substrate to which the adhesive is applied.

1 54. An apparatus for concurrently applying to a substrate a plurality of
2 parallel strips of an adhesive, the apparatus comprising:

3 a carrier having a forward end and a rearward end and including a base
4 and wheels rotatably mounted to the base for transporting the apparatus over the
5 substrate along a path of travel with the forward end leading the rearward end;

6 a mounting structure attached to the base;

7 a rack of cradles attached to the mounting structure, the rack of cradles
8 being arranged on the mounting structure in a line transversely of the path of travel of
9 the apparatus, each of the cradles in the rack of cradles being adapted to hold a
10 canister of the adhesive;

11 a pressure bar movably mounted on the mounting structure, the
12 pressure bar being located toward the rearward end of the carrier in relation to the rack
13 of cradles and extending substantially parallel to and located essentially in the same
14 plane as the rack of cradles;

15 a plurality of plungers, each plunger having a plunger rod with opposed
16 ends and a plunger head, one of the opposed ends of each plunger rod being secured to
17 the pressure bar so that the plunger rod extends substantially perpendicularly from the
18 pressure bar toward the rack of cradles, the other of the opposed ends of each plunger
19 rod being attached to a plunger head, the plungers being of sufficient length and
20 arranged on the pressure bar so that the plunger head of at least one plunger is
21 positioned within each cradle in the rack of cradles for discharging an adhesive from
22 the canisters in each cradle;

23 and an actuating mechanism mounted on the mounting structure for
24 selectively forcing the pressure bar, together with the plungers, toward the rack of
25 cradles whereby the plungers concurrently discharge adhesive from the canisters in the
26 cradles.

55. The apparatus of claim 54 wherein the plungers are arranged on the pressure bar so that the plunger heads of two plungers are located within each cradle in the rack of cradles for discharging the adhesive from the canister in each cradle.

1 56. The apparatus of claim 55 wherein the rack of cradles includes two support
2 members attached to the mounting structure parallel to one another and spaced apart a
3 preselected distance, the support members extending across the carrier in a direction
4 transversely of the path of travel of the apparatus;

5 a series of cradle-forming members extending between said support members,
6 the cradle-forming members being positioned between the two support members
7 substantially parallel to each other and perpendicular to the two support members and
8 being arranged on the two support members in a plurality of pairs of cradle-forming
9 members, the cradle-forming members, together with the sections of the support
10 members between the pair of cradle-forming members, forming a cradle in the rack of
11 cradles.

1 57. The apparatus of claim 55 wherein the actuating mechanism includes a
2 telescoping member having opposed ends and a driving device for developing a
3 driving force, one of the opposed ends of the telescoping member being attached to
4 the driving device whereby the driving force developed by the driving device extends
5 the telescoping member, and the other of the opposed ends of the telescoping member
6 being attached to the pressure bar for transmitting to the pressure bar the driving force
7 developed by the driving device, thereby moving the pressure bar toward the rack of
8 cradles.

58. The apparatus of claim 57 including a force-resisting device attached to the pressure bar for providing a resisting force to the driving force applied to the pressure bar by the extension of the telescoping member by the driving device, the magnitude of the resisting force being less than the magnitude of the driving force.

59. The apparatus of claim 58 including a release mechanism for releasing the driving force of the driving device on the pressure bar to allow the force-resisting device to move the pressure bar in a direction opposite the direction of movement caused by the driving force.

1 60. The apparatus of claim 59 wherein a pair of wheels is located toward the
2 rearward end of the carrier, the widths of the wheels and the spacing between the
3 wheels being such that, when the apparatus is used to apply adhesive to a substrate
4 comprising a corrugated roof decking having alternating ribs and flutes, the pair of
5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels are
6 located coaxially toward the forward end of the carrier and outwardly of the pair of
7 wheels toward the rearward end of the carrier, the two wheels located at the forward
8 end of the carrier being of a width greater than the width of the flutes such that, when
9 the apparatus is used to apply adhesive to a substrate comprising a corrugated roof
10 decking having alternating ribs and flutes, the wheels rest on the ribs of the decking.

61. The apparatus of claim 60 including a gauge attached to the pressure bar
for indicating the location of the plungers in the canisters.

62. The apparatus of claim 61 wherein the force- resisting device comprises a
gas spring.

63. The apparatus of claim 54 including a force-resisting device attached to the
pressure bar for providing a resisting force to the driving force applied to the pressure
bar by the extension of the telescoping member by the driving device, the magnitude
of the resisting force being less than the magnitude of the driving force.

64. The apparatus of claim 63 including a release mechanism for releasing the
driving force of the driving device on the pressure bar to allow the compression spring
to move the pressure bar in a direction opposite the direction of movement caused by
the driving force.

1 65. The apparatus of claim 64 wherein a pair of wheels is located toward the
2 rearward end of the carrier, the widths of the wheels and the spacing between the
3 wheels being such that, when the apparatus is used to apply adhesive to a substrate
4 comprising a corrugated roof decking having alternating ribs and flutes, the pair of
5 wheels straddle a rib and rest in adjacent flutes of the decking, and two wheels are
6 located coaxially toward the forward end of the carrier and outwardly of the pair of
7 wheels toward the rearward end of the carrier, the two wheels located at the forward
8 end of the carrier being of a width greater than the width of the flutes such that, when
9 the apparatus is used to apply adhesive to a substrate comprising a corrugated roof
10 decking having alternating ribs and flutes, the wheels rest on the ribs of the decking.

66. The apparatus of claim 65 including a gauge attached to the pressure bar
for indicating the location of the plungers in the canisters.

67. The apparatus of claim 66 wherein the force- resisting device comprises a
gas spring.

1 68. An apparatus for concurrently applying to a substrate a plurality of
2 substantially parallel strips of an adhesive, the apparatus comprising:
3 a carrier having motive supports for transporting the carrier along a
4 path of travel over the substrate;
5 a rack mounted on the carrier for holding one or more canisters of an
6 adhesive;
7 an actuating mechanism mounted on the carrier for selectively
8 developing a driving force; and
9 at least one respective plunger adapted to fit within each of the one or
10 more canisters, the at least one respective plunger being connected to the actuating
11 mechanism for the displacement of the at least one respective plunger within each
12 canister upon the application of the driving force from the actuating mechanism to
13 the at least one respective plunger, whereby the adhesive from the one or more
14 canisters is displaced from the one or more canisters to the substrate as a
15 plurality of substantially parallel strips of the adhesive.

1 69. The apparatus of claim 68 including a single pressure bar connected to
2 the at least one respective plunger and the actuating mechanism, whereby the driving
3 force selectively developed by the actuating mechanism is applied to the pressure bar
4 and, thereby, to the at least one respective plunger.

1 70. The apparatus of claim 68 wherein at least two plungers adapted to fit
2 within each of the one or more canisters and displace from each of the one or more
3 canisters adhesive reactants are connected to the actuating mechanism for the
4 displacement of the at least two plungers within each of the one or more canisters
5 whereby the adhesive reactants from each of the one or more canisters are displaced
6 from each of the one or more canisters and mixed and the adhesive produced by the
7 mixing of the adhesive reactants are discharged to the substrate as a plurality of
8 substantially parallel strips of the adhesive.

1 71. The apparatus of claim 70 including a single pressure bar connected to
2 the at least two plungers adapted to fit within each of the one or more canisters and
3 the actuating mechanism whereby the driving force selectively developed by the
4 actuating mechanism is applied to the pressure bar and, thereby, to the at least two
5 plungers adapted to fit within each of the one or more canisters.

1 72. The apparatus of claim 71 wherein the actuating mechanism includes a
2 telescoping member having opposed ends and a driving device for developing the
3 driving force, one of the opposed ends of the telescoping member being attached to
4 the driving device, whereby the driving device acts to extend the telescoping member,
5 and the other of the opposed ends of the telescoping member being attached to the
6 pressure bar for transmitting to the pressure bar the driving force.

73. The apparatus of claim 71 including a force- resisting device connected to the pressure bar for providing a resisting force to the driving force selectively provided by the actuating mechanism to the pressure bar, the magnitude of the resisting force being less than the magnitude of the driving force.

74. The apparatus of claim 73 including a release mechanism for releasing the driving force provided by the actuating mechanism to the plunger bar so as to allow the resisting force provided by the force-resisting device to disengage the at least two plungers from each of the one or more canisters.

1 75. The apparatus of claim 71 wherein the motive supports include a pair
2 of wheels located coaxially at the rearward end of the carrier, the wheels being of a
3 width and spaced apart a distance such that, when the apparatus is used to apply
4 adhesive to a substrate comprising a corrugated roof decking have alternating ribs and
5 flutes, the wheels straddle a rib and rest in adjacent flutes of the decking, and two
6 wheels located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of a
8 width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the two
10 forwardly and outwardly located wheels rest on the ribs of the decking.

1 76. The apparatus of claim 74 wherein the motive supports include a pair
2 of wheels located coaxially at the rearward end of the carrier, the wheels being of a
3 width and spaced apart a distance such that, when the apparatus is used to apply
4 adhesive to a substrate comprising a corrugated roof decking have alternating ribs and
5 flutes, the wheels straddle a rib and rest in adjacent flutes of the decking, and two
6 wheels located coaxially forwardly and outwardly of the pair of wheels located at the
7 rearward end of the carrier, the two forwardly and outwardly located wheels being of a
8 width such that, when the apparatus is used to apply adhesive to a substrate
9 comprising a corrugated roof decking having alternating ribs and flutes, the
10 two forwardly and outwardly located wheels rest on the ribs of the decking.
11